

**2006
DAIRY INSPECTION SURVEY
FOR
INDIANA STATE BOARD OF ANIMAL HEALTH**

**Conducted by
Edge Healthcare Research, Inc.
Nashville, TN**

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BACKGROUND AND OBJECTIVES

A market research study among milk haulers, cooperative field representatives, and Grade A and manufacturing grade dairy farmers was undertaken recently at the request of the Indiana State Board of Animal Health (BOAH). The primary contact for the study was Denise Derrer, Public Information Director.

The overall goal of this study was to gather information on dairy testing and inspection procedures and to evaluate BOAH services.

Specific objectives of this study included:

- Examine the procedures regarding antibiotic drug residue testing throughout the state.
- Measure interest in receiving additional drug residue testing and prevention information.
- Evaluate BOAH inspections, including inspector, clarity of results, and priorities.
- Determine knowledge of the Pasteurized Milk Ordinance (PMO) and its relationship with BOAH policies.
- Evaluate BOAH overall and any interaction with BOAH staff members.
- Determine which factors should be most important during inspections.
- Examine future dairy industry trends.
- Gather suggested actions to help BOAH improve services.
- Collect a range of demographic information about dairy operations.

In addition, each respondent had the opportunity to provide contact information if they wanted to receive a summary report of the study results or a specific follow-up from BOAH. These two lists were forwarded to BOAH as an addendum to the final report.

METHODOLOGY

A mail survey was conducted among milk haulers, cooperative field representatives, and Grade A and manufacturing grade dairy farmers in January 2006.

The study's data collection phase was undertaken in two steps that included an advance-notice "alert" mailing, followed by a separate survey packet. The "alert" postcard from the Indiana Board of Animal Health was sent one week in advance of the survey packet mailing.

Using a list supplied by BOAH, Edge Healthcare Research mailed a total of 2,204 survey packets on January 27, 2006. The standardized survey packet contained a personalized cover letter on BOAH stationery signed by Bret D. Marsh, D.V.M., Indiana State Veterinarian, a questionnaire, and a stamped self-addressed return envelope. All items were mailed in a 9"x12" BOAH envelope. The questionnaire included approximately 50 question items of concern to BOAH.

The survey was held open for four weeks after initial receipt by respondents and was closed on March 1, 2006. The survey dates were as follows

Advanced letter mailing	1/23/06
Survey packet mailing	1/27/06
Study closed	3/1/06
Report Issued	3/17/06

The overall response rate for this study was as follows:

Population:	2,204
Refused/Non-deliverable:	25
Adjusted Population:	2,179
Number of Responses:	835
Response Rate:	38%

This response rate is quite high and provides high reliability for survey results.

A final report was issued on March 17, 2006.

RELIABILITY OF SURVEY PERCENTAGES

Results of any sample are subject to sampling variation. The main components of sampling variation are the number of interviews completed and the level of percentages expressing results. Results of a probability sample are statistically measurable.

The table below shows the error factor that applies to percentage results reported in this study. Some error will always exist because we have not interviewed each individual in the population.

HOW TO READ THE FOLLOWING TABLE:

If the reported percentage in a given table is 10%, and the number of respondents to the question is 835, then we can say that the chances are 95 in 100 that the actual result lays within ± 1.6 percentage points from 10%. As another example, if 500 respondents were asked a question, and the result is near 20% or 80%, then that reported percentage is reliable within ± 3.1 percentage points.

As these results show, the sample of 835 represents an excellent response rate. Ideally, the survey should reach a 95% confidence level with a maximum error of ± 5 percentage points at the 50% result level. This study achieved a maximum ± 2.7 percentage points error at that level.

Approximate Sampling Tolerances Applicable to Percentages at or Near These Levels					
Size of Sample on Which Survey Results are Based	10% or 90%	20% or 80%	30% or 70%	40% or 60%	50%
835	$\pm 1.6\%$	$\pm 2.1\%$	$\pm 2.5\%$	$\pm 2.6\%$	$\pm 2.7\%$
500	$\pm 2.3\%$	$\pm 3.1\%$	$\pm 3.5\%$	$\pm 3.8\%$	$\pm 3.9\%$
200	$\pm 4.0\%$	$\pm 5.3\%$	$\pm 6.1\%$	$\pm 6.5\%$	$\pm 6.7\%$
100	$\pm 5.9\%$	$\pm 7.8\%$	$\pm 8.9\%$	$\pm 9.6\%$	$\pm 9.8\%$

For reporting purposes, results of this survey are reported in total, as well as by region, type of milk produced, and industry category of respondent.

EXECUTIVE SUMMARY

The following summarizes the key findings of the 2006 Dairy Inspection Survey conducted for the Indiana State Board of Animal Health.

Respondent Profile

- Respondents were mostly dairy farmers (93%), and to a lesser degree milk haulers (6%) and cooperative field reps (1%). Dairy size was mainly 31-200 cows (55%), and dairy operations were located mainly in LaGrange (22%) and Elkhart counties (13%) while others were distributed over 78 counties.
- Milk produced was predominantly Grade A (88%). Two-thirds of respondents (66%) indicated that the final destination of their milk shipments was in-state and 38% stated the destination was out-of-state. About two-in-ten respondents (19%) were not sure about the final destination of their milk shipments.

Antibiotic Drug Residue

- It was found that 64% of respondents test their bulk tank prior to pickup. Of all respondents, only 15% reported that bulk tank testing is a normal, routine practice. When undertaken, bulk tank testing is conducted on the farm (70%), at a lab (22%), or both on the farm and at a lab (8%). The most frequently used tests were Delvotest (53%) and Snap (42%).
- Cooperatives or milk buyers required antibiotic testing before pickup only 15% of the time. Another 34% of respondents were not sure of the policy. Testing was encouraged but not required for 42% of respondents, and 9% reported testing is not encouraged or required.
- About two-in-ten respondents (21%) had completed the *Milk and Dairy Beef Drug Residue Prevention Protocol* book.
- While veterinarians were by far considered the most useful source of information on antibiotic drug residues and tests, there was only moderate interest in receiving more of such information. Among those interested, the preferred methods of receiving additional information were through the vet (51%) and on DVD/video (34%).

On-farm Inspections

- Ten percent of respondents were always present during farm inspections, and most others (81%) indicated that they were sometimes present during farm inspections.
- BOAH inspectors were evaluated on seven characteristics plus an overall rating on a four-point scale as excellent, good, fair, or poor. They were rated in the “good” range for all items.

- Nearly all respondents (91%) stated that the results of their inspection were clear enough to take appropriate action. Additionally, half of respondents had participated in a BTU survey in the past 12 months, and most of these 80% said the results were consistent with the findings of their regular inspections.

Pasteurized Milk Ordinance

- Only 13% of respondents said they were familiar with the PMO. Those who were familiar had a good understanding of it including that it regulates the interstate shipment of milk, is a federal regulation, and that BOAH neither established nor can change the PMO's standards and regulations.

BOAH Evaluation

- It was found that about half of respondents (46%) had contact with a BOAH staff member in the past 12 months.
- The BOAH staff was evaluated on seven different performance factors on a four-point scale as excellent, good, fair, or poor. On average, the staff was rated as "good," with mean scores of 2.7 or 2.8 of 4.0 for all items. Respondents evaluated the overall performance of BOAH staff as "good" with a 2.7 of 4.0 rating. Specific ratings appear in the following table.
- For overall performance, the majority of respondents rated BOAH as excellent (10%) or good (63%). Two-in-ten (20%) indicated that BOAH was fair and 7% rated it poor. The mean rating was 2.8. As would be the case with other ratings in this report, one-quarter negative ratings indicate that improvement opportunities exist. Respondents in the West Central (2.6) and Southern regions (2.6) evaluated BOAH's performance to be slightly lower than other regions, while those in the Northeast region (2.9) rated it slightly higher.

Impact of Regulations

- In evaluating potential barriers to growth, respondents considered low milk prices and high input costs as having a much greater impact on their industry than strict environmental regulations and strict regulations to ship milk.

Suggested Improvements

- In ranking five pre-listed BOAH priorities, respondents felt BOAH should place the most emphasis on bacterial counts (1), on-farm sanitation (2), and proper cooling (3) when inspecting milk operations. Pre-incubated counts (4) and somatic cell counts (5) were lower priorities.
- The most frequently mentioned suggestions to improve BOAH services were "use common sense/get in touch with farmers" (22%), "more tolerant of minor violations/focus on milk quality" (14%), and "improve communication/follow-up/explain findings" (13%). Other suggestions were "courteous/helpful/professional/

knowledgeable staff” (11%), “consistent/unbiased inspectors/treat small and large farms equally” (10%), and “keep informed of changes/newsletter/tips” (9%). Comments on suggested improvements are provided in verbatim form at the end of this report.

Overall, this report documents the current status of the dairy producers’ perceptions of dairy inspections in the State of Indiana. Further, it provides an evaluation of BOAH inspectors and BOAH overall, providing very specific suggestions for improvement. This baseline of information should be valuable in providing BOAH with actionable findings to improve services and a benchmark for future measurements.

DETAILED FINDINGS

Respondent Profile

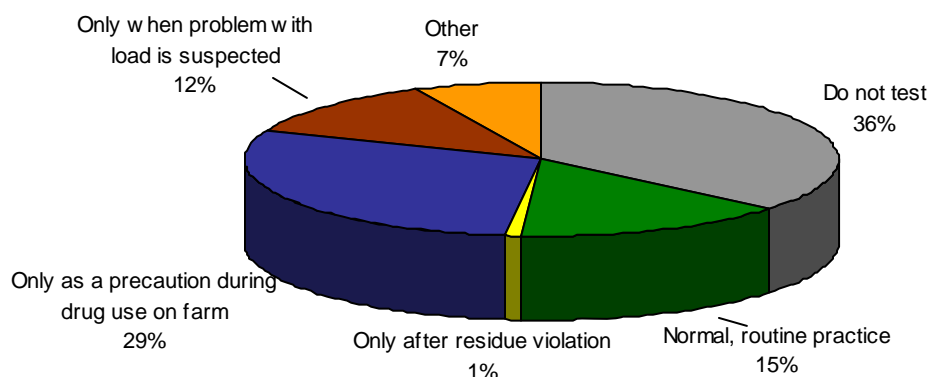
Almost all respondents (93%) were dairy farmers, with only 6% identifying themselves as milk haulers and 1% as cooperative field reps. Almost one-third of respondents (32%) had between 1 and 30 cows and over half (55%) had between 31 and 200 cows. Only 6% had over 200 cows. On average, respondents had worked in the dairy industry for 27 years. One-third of respondents' dairy operations were in LaGrange (22%) or Elkhart counties (13%), while the others were distributed over more than 30 other counties.

About one-in-ten respondents (12%) produced manufacturing grade milk, while the rest (88%) produced Grade A. Two-thirds of respondents (66%) indicated that the final destination of their milk shipments was in-state and 38% stated the destination was out-of-state. About two-in-ten respondents (19%) were not sure about the final destination of their milk shipments.

Antibiotic Drug Residue

Respondents were asked a series of questions to classify their bulk tank testing procedures. Overall, 64% of respondents test their bulk tank prior to pick-up. Stated as a percent of all respondents, 15% reported that bulk tank testing is a normal, routine practice. Another 29% test the bulk tank only as a precaution during drug use on the farm, while 12% test only when a problem with the load is suspected.

Bulk Tank Testing Practices



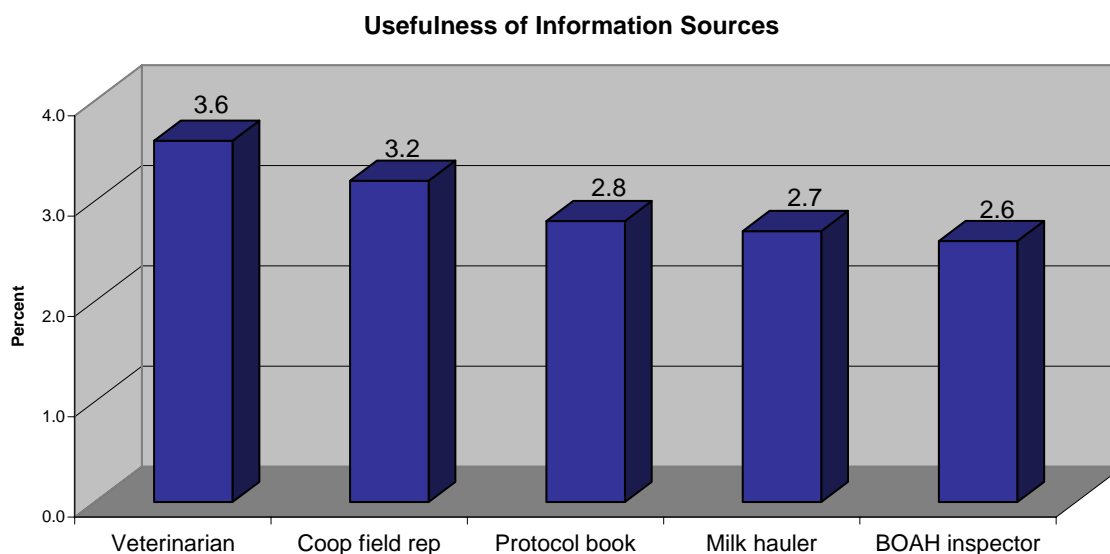
Most bulk tank testing is conducted on the farm (70%), with 22% taking place at a lab and 8% occurring both on the farm and in a lab. The most frequently used tests were

Delvotest (53%) and Snap (42%). Some respondents also used Charm SL (17%) and Penzyme (4%).

When asked to classify their cooperative or milk buyer's policy toward antibiotic testing before pickup, it was found that testing is required for only 15% of respondents. Testing is encouraged but not required for 42% of respondents, and 9% reported that testing is not encouraged or required. Over one-third of respondents (34%) were not sure of their cooperative or milk buyer's policy toward antibiotic testing before pickup. For about half of respondents (48%), the cooperative or milk buyer provides test kits.

About two-in-ten respondents (21%) had completed the *Milk and Dairy Beef Drug Residue Prevention Protocol* book.

Respondents were asked to rate the usefulness of five different sources of information on antibiotic drug residues and tests. Overall, veterinarians were considered the most useful source with the highest mean importance rating at 3.6 of 4.0. Cooperative field reps ranked second (3.2), followed by the *Milk and Dairy Beef Drug Residue Prevention Protocol* book (2.8) and the milk hauler (2.7). The BOAH inspector was rated the lowest at 2.6.



There was found to be only moderate interest in receiving more information or training in drug residue prevention and testing. Specific responses were very interested (11%), somewhat interested (37%), not very interested (31%), and not at all interested (21%). The mean interest level was 2.4 of 4.0. The preferred method of receiving additional information or training was through the vet (51%), followed by DVD/video (34%). Local classes (21%) and online (12%) were preferred by fewer respondents.

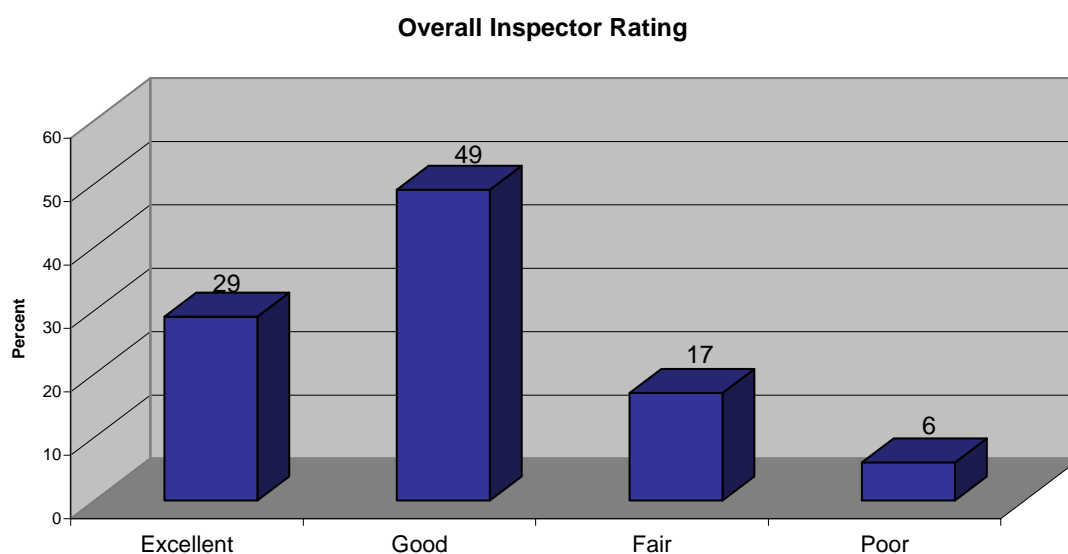
On-farm Inspections

Most respondent (81%) indicated that they were sometimes present during farm inspections. About one-in-ten (11%) were always present and 8% were rarely or never present.

Respondents were asked to rate seven characteristics and provide an “overall” evaluation of their current BOAH inspector on a four-point scale of excellent, good, fair, or poor. Results averaged a “good” rating with courteousness/respectfulness, knowledge of dairy operations, and ability to answer questions receiving the highest percent of “excellent” ratings. Follow-up on problems/violations and biosecurity practices had the fewest “excellent” ratings.

Items	Mean Performance Rating of 4.0	Percent “Excellent”	Percent “Poor”
Courteousness/Respectfulness	3.1	39	6
Knowledge of dairy operations	3.1	35	4
Ability to answer questions	3.1	34	3
Training and experience	3.1	31	3
Professionalism	3.0	31	6
Follow-up on problems/violations	3.0	30	6
Biosecurity practices	3.0	29	6

For the overall evaluation of their current inspector, respondents indicated that their inspector was “good” with a 3.0 of 4.0 rating. Note in the chart below that the rating includes about one-fourth negative ratings of “fair” or “poor.”



Respondents from the Southern region (2.8) rated their current BOAH inspector slightly lower than other regions. The highest evaluations came from the Northeast (3.1) and East Central regions (3.1).

Respondents were provided with a list of five potential priorities for the BOAH inspector and were asked to indicate how important each should be by ranking them according to

priority level. Two issues, “protect the consuming public’s health” and “maintain good relations between industry/producers/regulatory” were ranked much higher than the others. These findings seem to echo respondents’ verbatim suggestions for BOAH to focus more on issues related to milk quality and less on the details that seem to put the farmers at odds with BOAH inspectors. “Uphold the Pasteurized Milk Ordinance,” “education,” and “sale/production of milk in Indiana” were all ranked much lower.

The majority of respondents (91%) stated that the results of their inspection were clear enough to take appropriate action. Those few who said the results were not clear enough suggested several improvements to clarify the results. The most frequent suggestions included more detailed notes/better explanation of violations (31%), more legible handwriting (21%), and more knowledgeable/consistent inspectors (12%). Other suggestions were talk directly to producer/personal communication (10%), leave copy of report outlining violations (8%), and clarify inspection form/more explicit categories (7%).

Almost half of respondents had participated in a BTU survey in the past twelve months, with 31% participating in a state survey and 16% in a federal survey. For most of those that have been surveyed (80%), the results were consistent with findings of their regular inspections.

Pasteurized Milk Ordinance

To help better gauge the understanding of the Pasteurized Milk Ordinance (PMO), respondents were asked whether or not they were familiar with the PMO and whether five statements about the PMO were true or false. Overall, only 13% of respondents indicated that they were familiar with the PMO. Of those who were familiar, the majority were able to accurately assess each of the statements as either true or false. However, some education is needed to address the 87% of respondents who were not familiar with the PMO.

Statement Evaluation By Only Those Familiar with PMO				
Items	True	False	Don't know	Correct Answer
The PMO regulates the interstate shipment of milk.	60	22	19	True
The PMO is a federal regulation.	79	9	12	True
BOAH enforces the PMO in Indiana.	86	5	9	True
BOAH can change the PMO standards and regulations.	15	67	18	False
BOAH established the PMO.	12	70	18	False

Board of Animal Health Evaluation

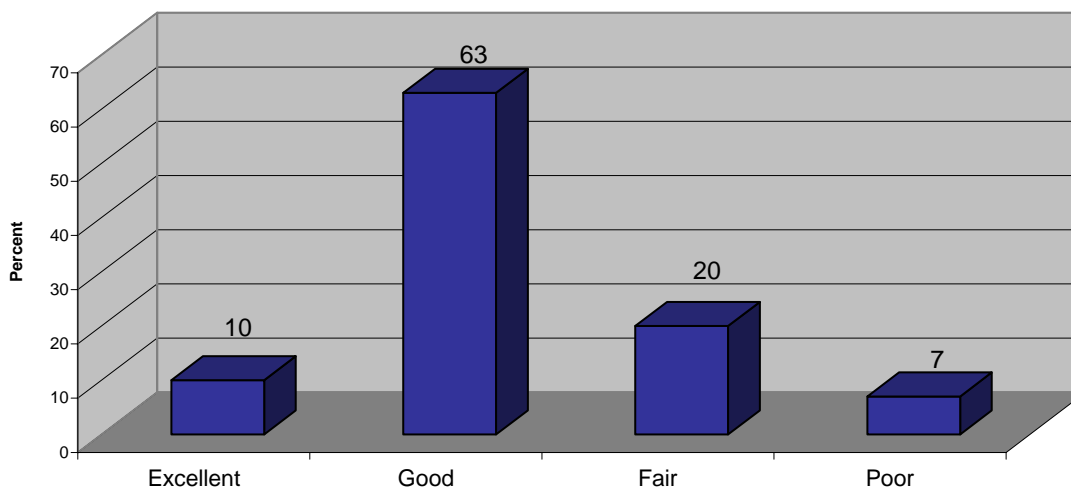
About half of respondents (46%) had contact with a BOAH staff member in the past 12 months. Of all respondents, contact had been mainly with a state survey officer (20%) or other inspector (19%), and to a lesser degree a BOAH Dairy Division office staff member (11%), state veterinarian (9%) or other mention (5%).

The BOAH staff was evaluated on seven different performance factors on a four-point scale as excellent, good, fair, or poor. On average, the staff was rated as “good,” with mean scores of 2.7 or 2.8 of 4.0 for all items. Respondents evaluated the performance of BOAH staff overall to be “good” with a 2.7 of 4.0 rating. Specific ratings appear in the following table.

Items	Mean Performance Rating of 4.0	Percent “Excellent”	Percent “Poor”
Professionalism	2.8	23	10
Courteousness/Respectfulness	2.8	23	10
Ability to answer questions	2.8	21	9
Knowledge of dairy operations	2.8	20	9
Training and experience	2.8	19	8
Timely follow-up to you	2.7	17	15
Overall rating of BOAH staff	2.7	16	8

Respondents also provided an overall evaluation of the performance of BOAH on a four-point scale of excellent, good, fair, or poor. The majority of respondents rated BOAH as excellent (10%) or good (63%). Two-in-ten (20%) indicated that BOAH was fair and 7% rated it poor. The mean rating was 2.8. Respondents in the West Central and Southern regions (2.6) evaluated BOAH’s performance to be slightly lower than other regions, while those in the Northeast region (2.9) were slightly higher.

Overall Evaluation of BOAH Performance



The most frequent reasons for a fair or poor evaluation were “lack common sense/out of touch with farmers” (17%), “dislike specific inspector/miss specific inspector” (15%), and

“inconsistent/biased inspectors” (14%). Other reasons mentioned included “unknowledgeable/disrespectful/unprofessional staff” (13%), “poor communication/lack of follow-up/explanation of findings” (13%), “too much emphasis on things that don’t affect milk quality” (11%), “understaffed/high turnover” (6%), and “too many regulations/too inflexible” (6%).

Dairy Industry Trends

Respondents were asked to rate six potential barriers to growth according to their impact on the milk industry. On a scale of 1 to 4 with 4 being the highest rating, two issues stood out as having the most impact: “low milk prices” (3.4) and “high input costs” (3.4). The other potential barriers were rated lower, but were still seen as having some impact.

Items	Mean Importance of 4.0
Low milk prices	3.4
High input costs	3.4
Growth of corporate farming	2.9
Strict environment regulations	2.8
Strict regulations to ship milk	2.4
Urban development	2.4

Suggested Improvements

To help improve BOAH and better understand the dairy industry’s expectations, respondents were also asked to rank BOAH priorities and to provide suggestions for future improvements. Of the five factors that were ranked according to how BOAH should consider them when inspecting milk operations, bacterial counts (1), on-farm sanitation (2), and proper cooling (3) were ranked highest of the five priorities. Pre-incubated counts (4) and somatic cell counts (5) were ranked the lowest. Most “other” suggestions concerned the cleanliness and general appearance of equipment, cows, and overall facility operations.

The most frequently mentioned suggestions to improve BOAH services were “use common sense/get in touch with farmers” (22%), “more tolerant of minor violations/ focus on milk quality” (14%), and “improve communication/follow-up/explain of findings” (13%). Other suggestions were “courteous/helpful/professional/knowledgeable staff” (11%), “consistent/unbiased inspectors/treat small and large farms equally” (10%), and “keep informed of changes/newsletter/tips” (9%). Comments on suggested improvements are also provided in verbatim form at the end of this report.